

FIG. 1

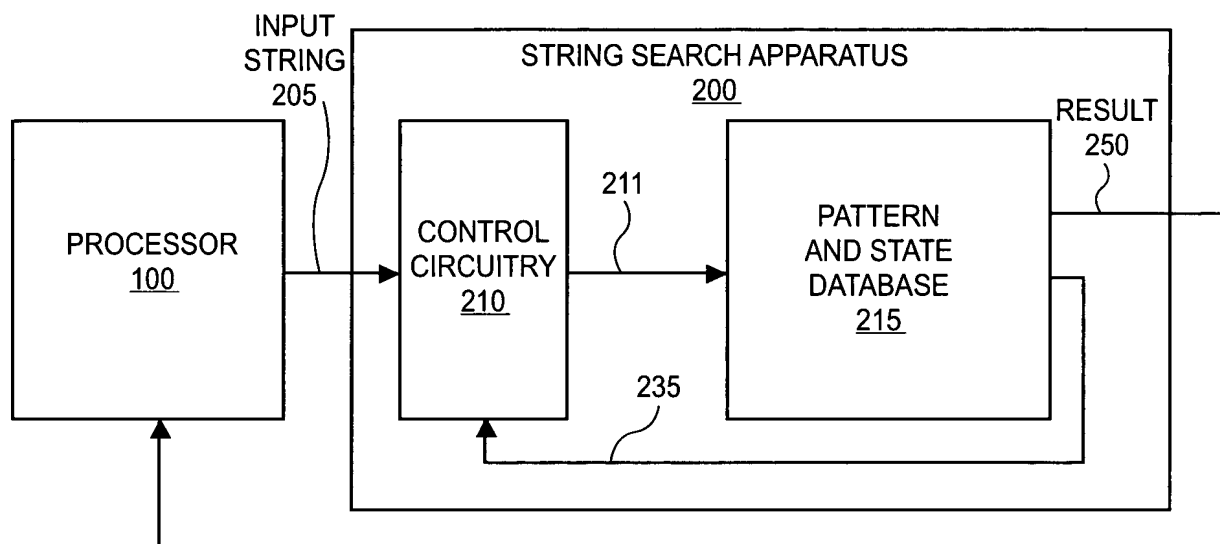


FIG. 2A

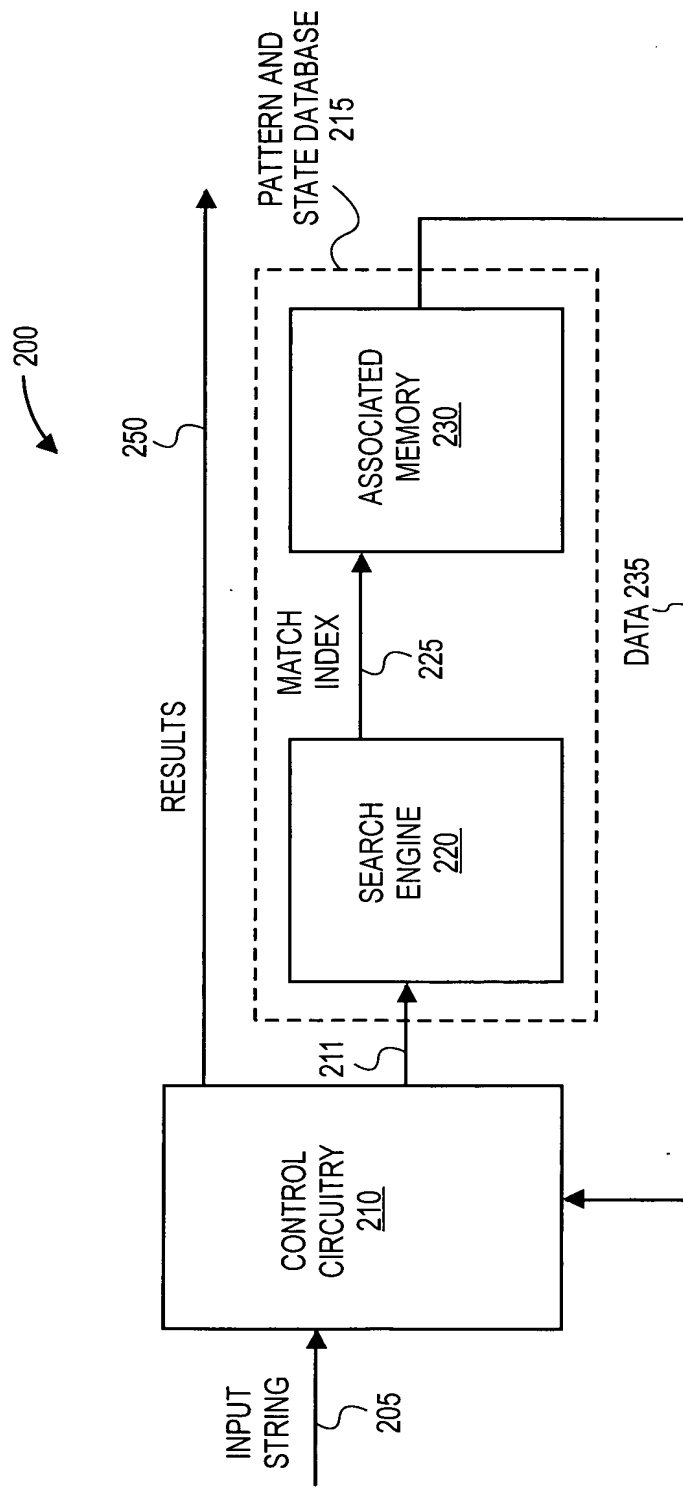


FIG. 2B

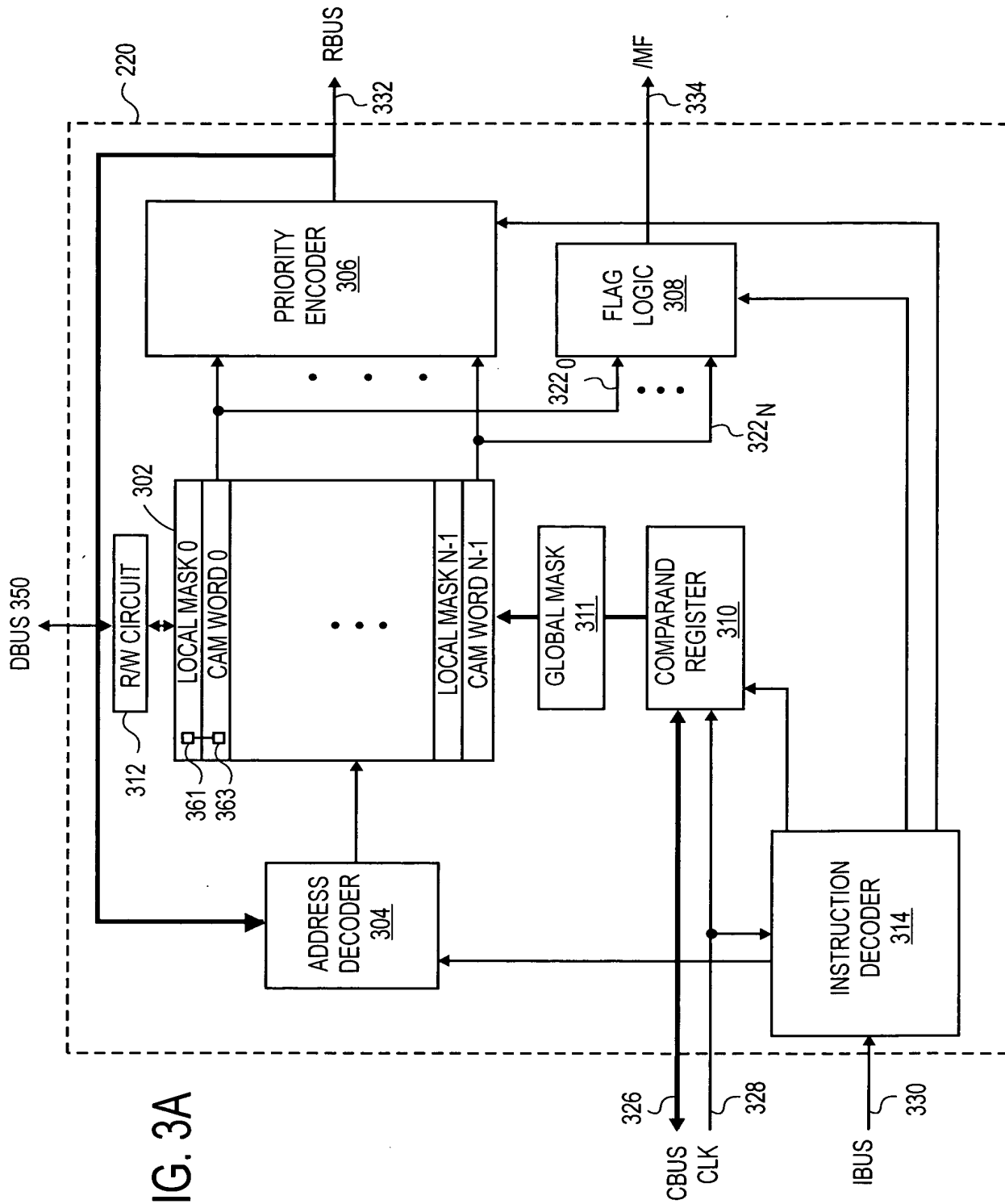


FIG. 3A

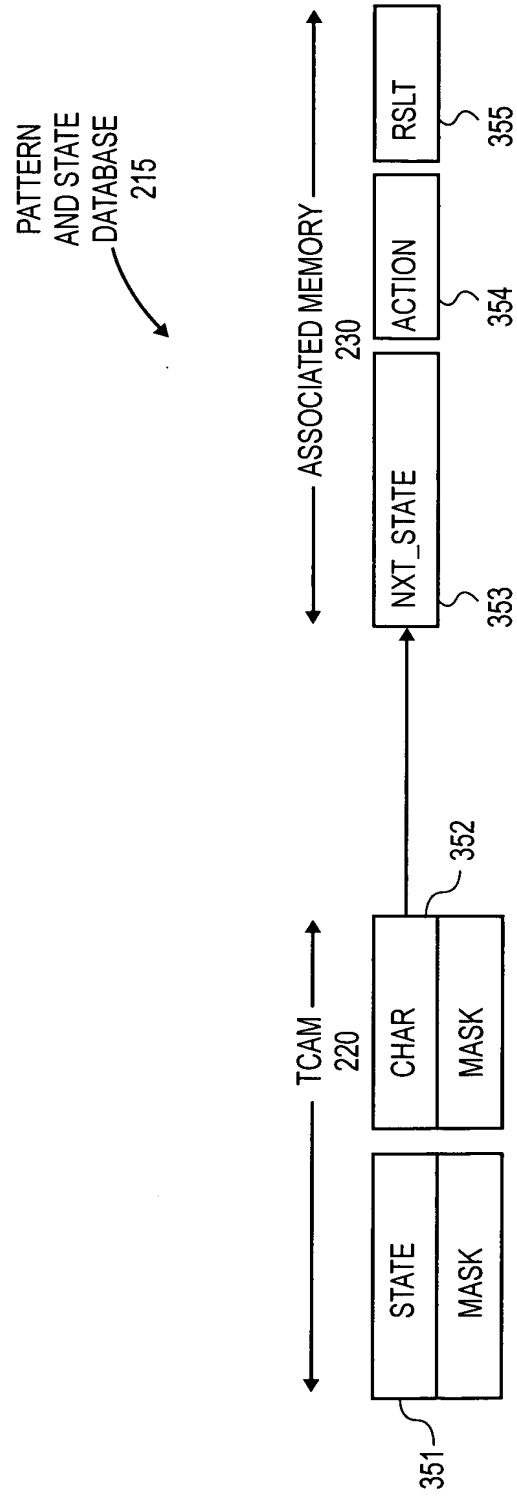


FIG. 3B

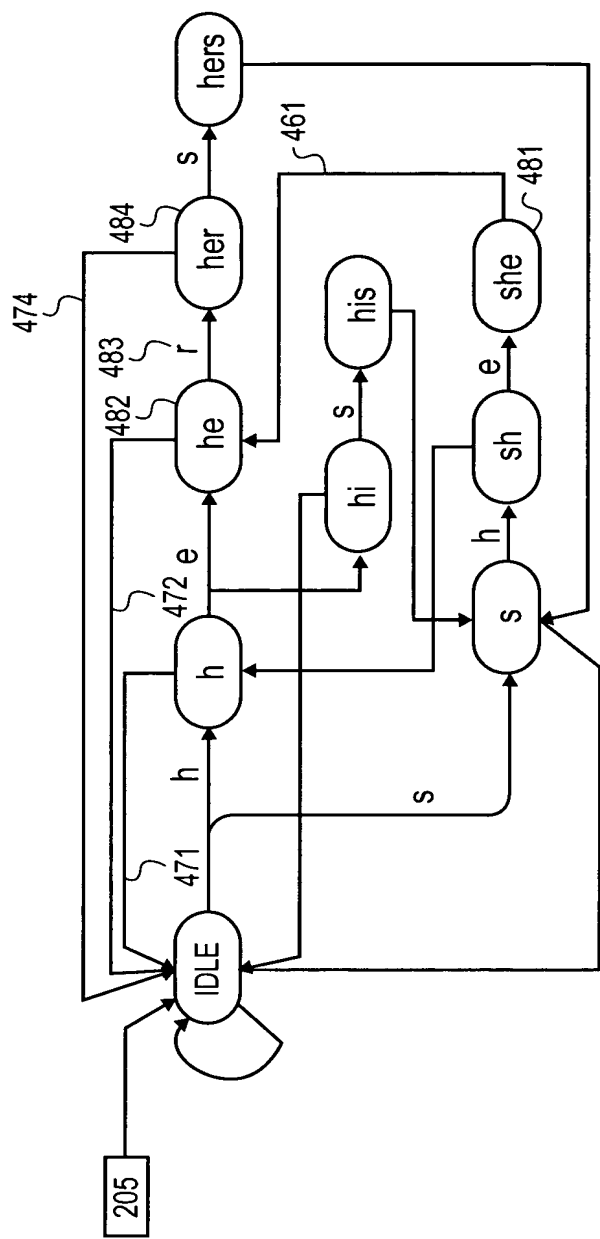


FIG. 4A

ADDRESS	STATE	CHAR	NXT STATE	ACTION	RESULT
"GOTO" TRANSITIONS					
0	IDLE	H	H	NOP	0
1	IDLE	S	S	NOP	0
2	H	E	HE	OUTPUT RESULTS	1
3	HE	R	HER	NOP	0
4	HER	S	HERS	OUTPUT RESULTS	2
5	H	I	HI	NOP	0
6	HI	S	HIS	OUTPUT RESULTS	3
7	S	H	SH	NOP	0
8	SH	E	SHE	OUTPUT RESULTS	4
FAILURE TRANSITIONS					
9	H	*	IDLE 471	FAILURE	0
10	HE	*	IDLE 472	FAILURE	0
11	S	*	IDLE 473	FAILURE	0
12	SH	*	H	FAILURE	0
13	SHE	*	HE	FAILURE	0
14	HIS	*	S	FAILURE	0
15	HER	*	IDLE 474	FAILURE	0
16	HERS	*	S	FAILURE	0

GOTO
BLOCK
491

FAILURE
BLOCK
492

TCAM 220 ↔ ASSOCIATED MEM 230

PATTERN AND
STATE DATABASE
215

FIG. 4B

351		352		353		354		355	
ADDRESS	STATE	CHAR	NXT STATE	ACTION	RESULT				
"GOTO" TRANSITIONS									
0	IDLE	H	H	NOP	0				
1	IDLE	S	S	NOP	0				
2	H	E	HE	OUTPUT RESULTS	1				
3	HE	R	HER	NOP	0				
4	HER	S	HERS	OUTPUT RESULTS	2				
5	H	I	HI	NOP	0				
6	HI	S	HIS	OUTPUT RESULTS	3				
7	S	H	SH	NOP	0				
8	SH	E	SHE	OUTPUT RESULTS	4				
FAILURE TRANSITIONS									
12	SH	*	H	FAILURE	0				
13	SHE	*	HE	FAILURE	0				
14	HIS	*	S	FAILURE	0				
16	HERS	*	S	FAILURE	0				
	**	*	IDLE 475	FAILURE	0				

GOTO
BLOCK
491

FAILURE
BLOCK
492

TCAM
220

ASSOCIATED MEM
230

GOTO
BLOCK
491

FAILURE
BLOCK
492

← TCAM 220 →

← ASSOCIATED MEM 230 →

PATTERN AND
STATE DATABASE
215

FIG. 4C

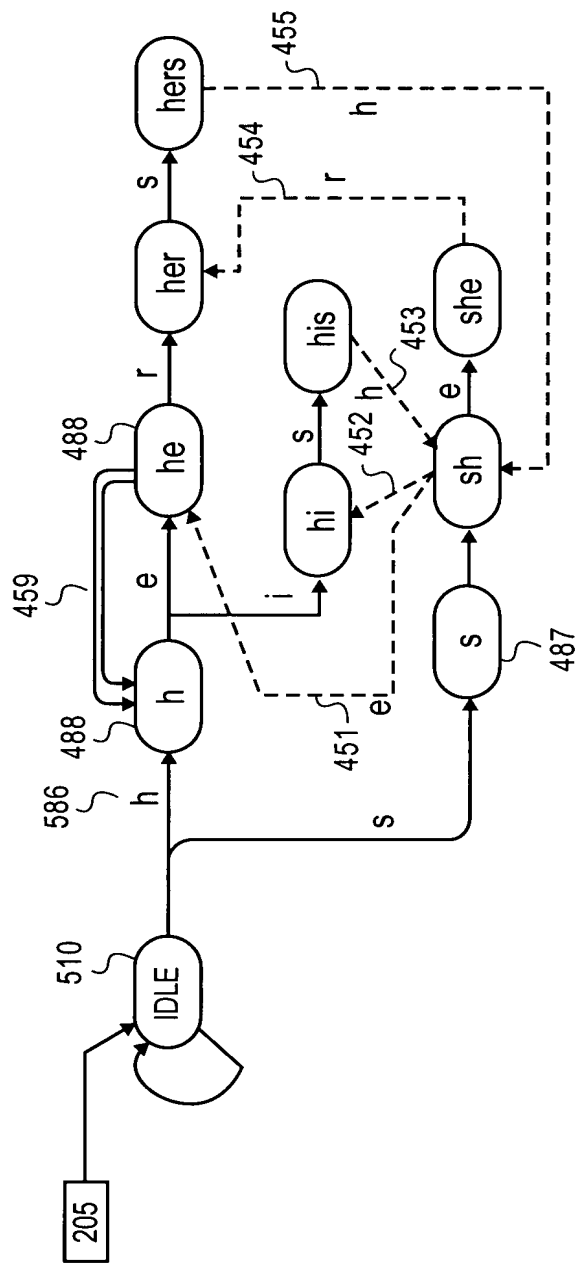


FIG. 5

ADDRESS	STATE	CHAR	NXT_STATE	ACTION	RESULT
0	H	E	HE	OUTPUT RESULTS	1
1	HE	R	HER	NOP	0
2	HER	S	HERS	OUTPUT RESULTS	2
3	H	I	HI	NOP	0
4	HI	S	HIS	OUTPUT RESULTS	3
5	S	H	SH	NOP	0
6	SH	E	SHE	OUTPUT RESULTS	4
7	SH	I	HI	NOP	0
8	HIS	H	SH	NOP	0
9	SH	E	HE	NOP	0
10	**	H	H	NOP	0
11	**	S	S	NOP	0
12	**	*	IDLE	NOP	0

BLOCK 591 (Addresses 0-9)
 BLOCK 592 (Addresses 10-11)
 BLOCK 593 (Address 12)

351 STATE
 352 CHAR
 353 NXT_STATE
 354 ACTION
 355 RESULT

TCAM 220
 ASSOCIATED MEM 230
 PATTERN AND STATE DATABASE 215

FIG. 6

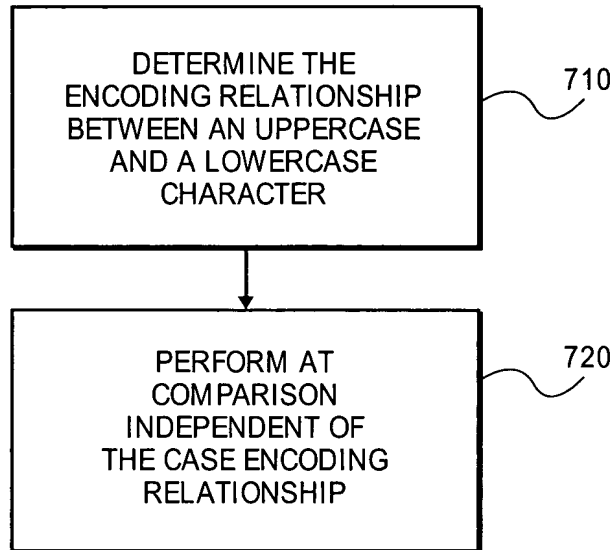


FIG. 7

730

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	SOH	STX	ETX	EOT	ENQ	ACK	BEL	BS	TAB	LF	VT	FF	CR	SO	SI
1	DLE	DC1	DC2	DC3	DC4	NAK	SYN	ETB	CAN	EM	SUB	ESC	FS	GS	RS	US
2		!	"	#	\$	%	&	'	()	*	+	,	-	.	/
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6	·	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{		}	~	

731

FIG. 7A

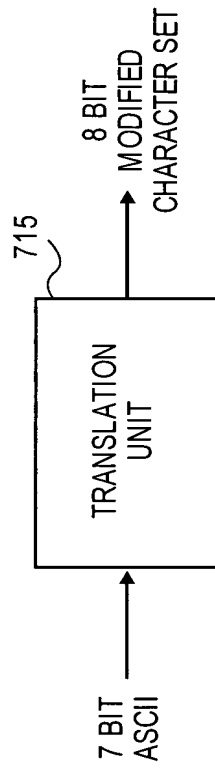


FIG. 7B

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	SOH	STX	ETX	EOT	ENQ	ACK	BEL	BS	TAB	LF	VT	FF	CR	SO	SI
1	DLE	DC1	DC2	DC3	DC4	NAK	SYN	ETB	CAN	EM	SUB	ESC	FS	GS	RS	US
2		!	"	#	\$	%	&	'	()	*	+	,	-	.	/
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z					
6		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z					
8																
9																
A																
B																
C																
D	@											[\]	^	_
E																
F												{		}	~	

FIG. 7C

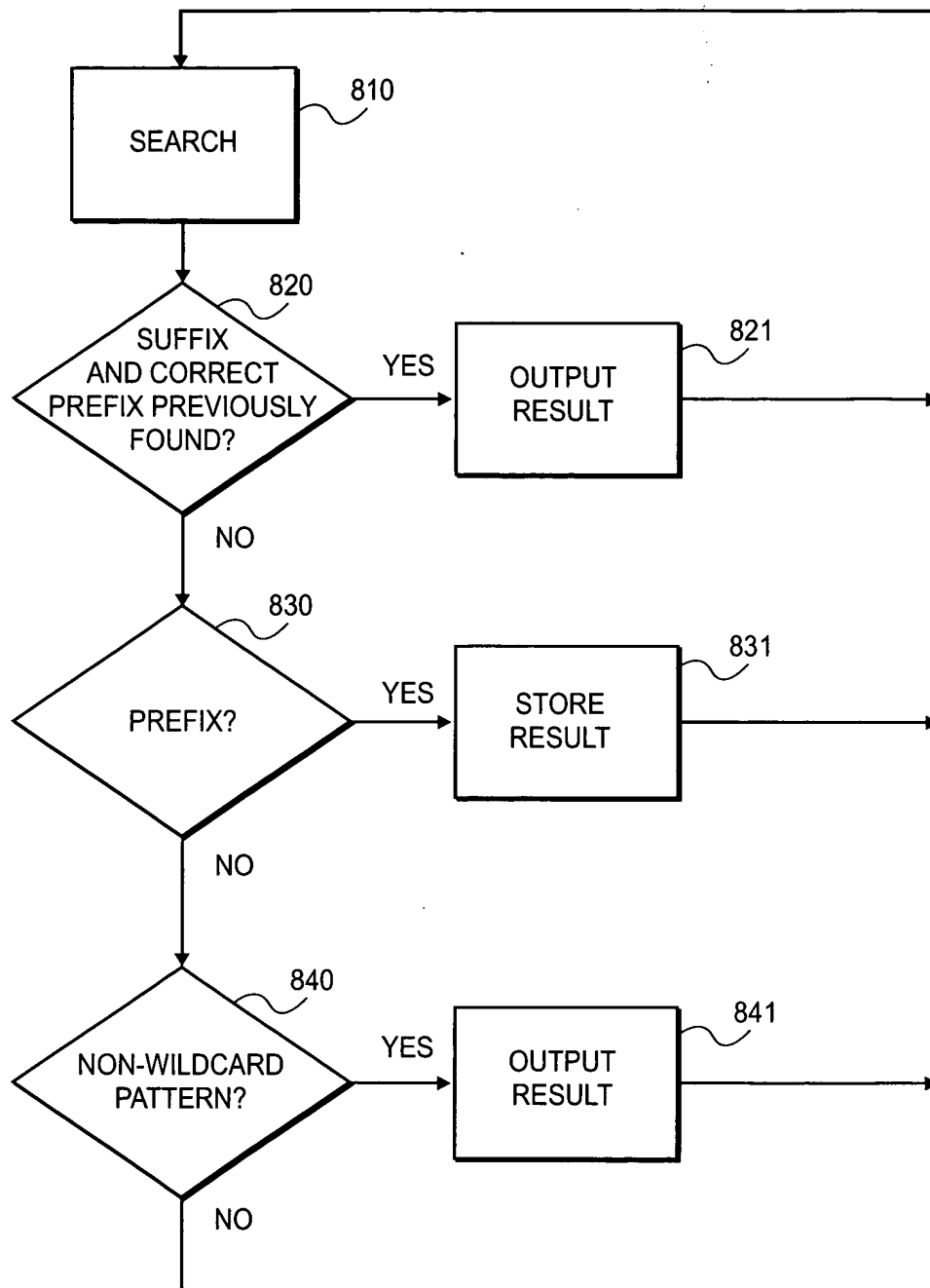
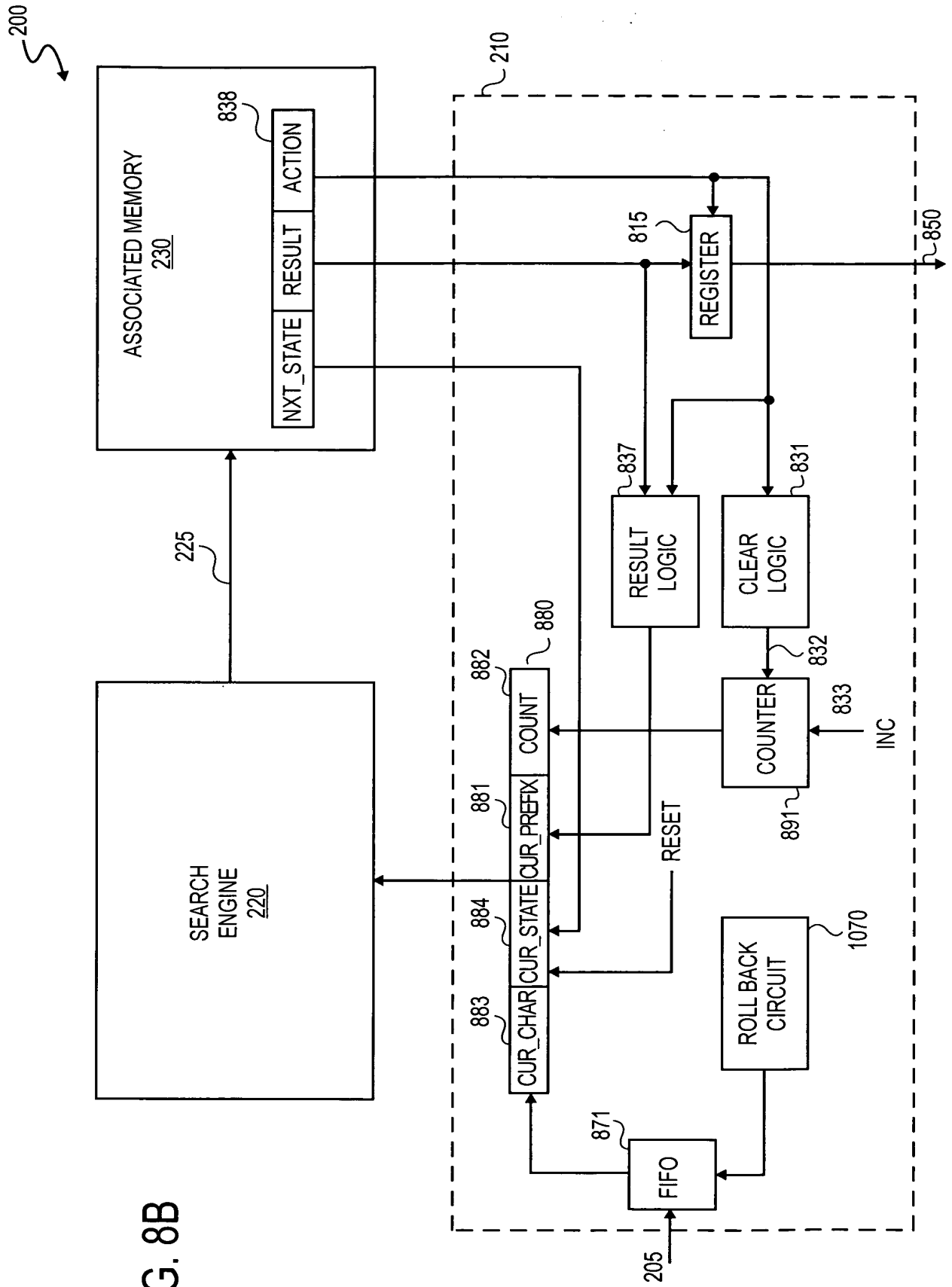


FIG. 8A

FIG. 8B



351		352		856		353	355	354
ADDRESS	STATE	CHAR	PREV_RSLT	NXT_STATE	RSLT	ACTION		
0	IDLE	T	*	IDLE	101	UPDATE CUR_PREFIX		
1	IDLE	B	*	B	0	NOP		
2	B	L	*	BL	0	NOP		
3	BL	E	101	IDLE	102	OUTPUT WILD CARD MATCH		

TCAM 220 ASSOCIATED MEMORY 230

FIG. 8C

ADDRESS	STATE	CHAR	PREV_RSLT	COUNT	NXT_STATE	RSLT	ACTION
0	IDLE	T	*	0	IDLE	101	UPDATE CUR_PREFIX
1	IDLE	B	*	*	B	0	NOP
2	B	L	*	*	BL	0	NOP
3	BL	E	101	5	IDLE	102	OUTPUT WILD CARD MATCH

TCAM 220 ASSOCIATED MEMORY 230

FIG. 8D

ADDRESS	STATE	CHAR	PREV_RSLT	NXT_STATE	RSLT	ACTION
0	IDLE	S	*	IDLE	102	UPDATE CUR_PREFIX
1	IDLE	T	*	IDLE	101	UPDATE CUR_PREFIX
2	IDLE	B	*	B	0	NOP
3	B	L	*	BL		NOP
4	BL	E	101	IDLE	103	OUTPUT FIRST WILD CARD MATCH
5	BL	E	102	IDLE	104	OUTPUT SECOND WILD CARD MATCH

351 352 353 354
 STATE CHAR PREV_RSLT NXT_STATE RSLT ACTION
 TCAM 220 ASSOCIATED MEMORY 230

FIG. 8E

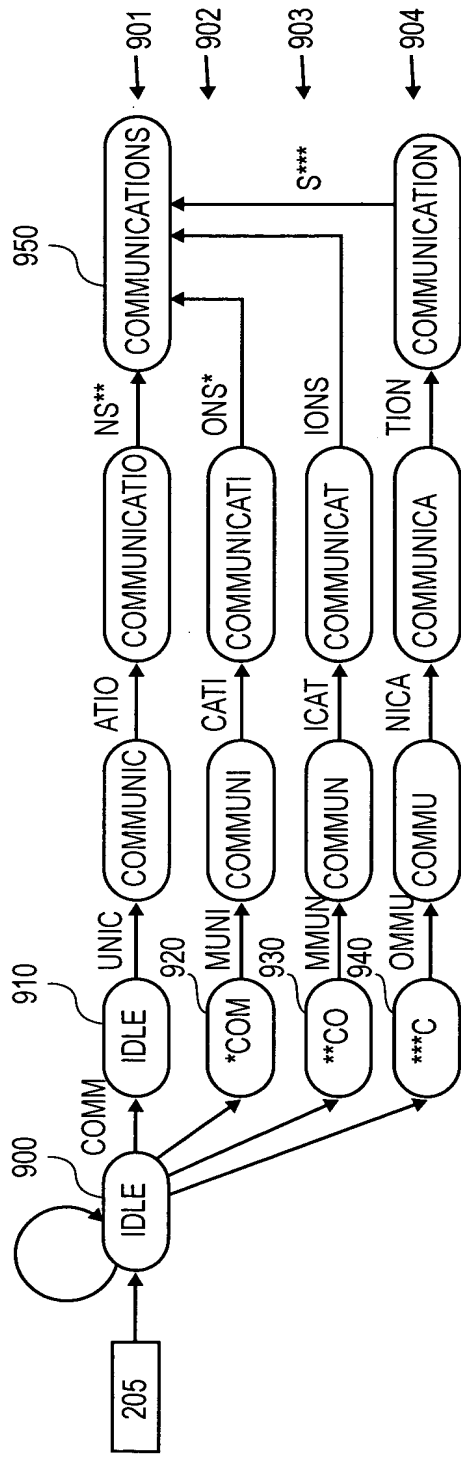


FIG. 9A

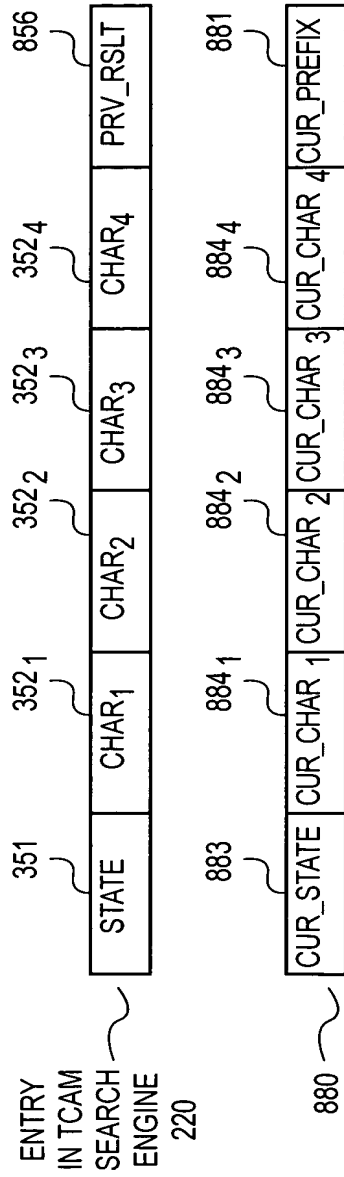


FIG. 9B

ADDRESS	STATE	CHRS	NXT_STATE	RSLT	ACTION
0	COMM	UNIC	COMMUNIC	0	NOP
1	COMMUNIC	ATIO	COMMUNICATIO	0	NOP
2	COMMUNICATIO	NSCO	CO	102	OUTPUT RESULT
3	COM	MUNI	COMMUNI	0	NOP
4	COMMUNI	CATI	COMMUNICATI	0	NOP
5	COMMUNICATI	ONSC	C	102	OUTPUT RESULT
6	CO	MMUN	COMMUN	0	NOP
7	COMMUN	ICAT	COMMUNICAT	0	NOP
8	COMMUNICATION	SCOM	COM	102	OUTPUT RESULT
9	C	OMMU	COMMU	0	NOP
10	COMMU	NICA	COMMUNICA	0	NOP
11	COMMUNICA	TION	COMMUNICATION	0	NOP
12	COMMUNICAT	IONS	IDLE	102	OUTPUT RESULT
13	COMMUNICATIO	NS**	IDLE	102	OUTPUT RESULT
14	COMMUNICATI	ONS*	IDLE	102	OUTPUT RESULT
15	COMMUNICATION	S***	IDLE	102	NOP
16	*	COMM	COMM	0	NOP
17	*	*COM	COM	0	NOP
18	*	**CO	CO	0	NOP
19	*	***C	C	0	NOP
20	*	****	IDLE	0	NOP

BLOCK 960 1 (Addresses 0-8)
 BLOCK 960 2 (Addresses 9-14)
 BLOCK 960 3 (Addresses 15-19)
 BLOCK 960 4 (Address 20)

TCAM 220 (Addresses 0-20)
 ASSOCIATED MEMORY 230 (Addresses 0-20)

FIG. 9C

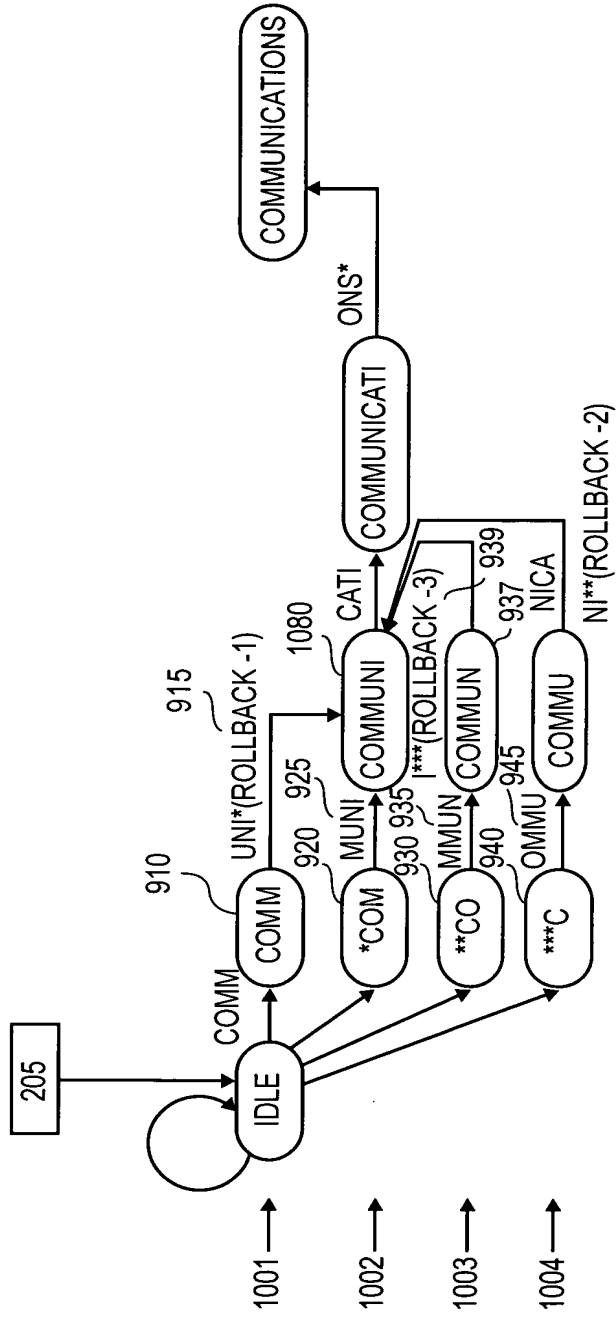


FIG. 10A

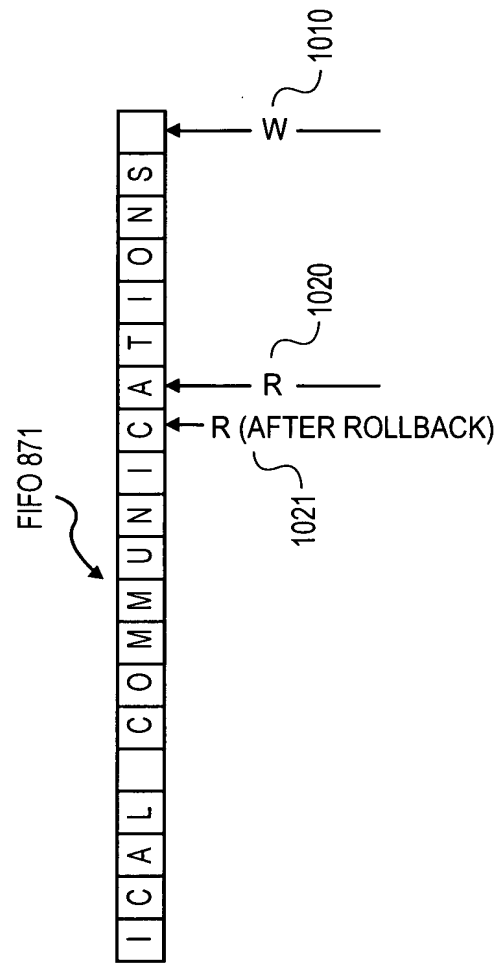


FIG. 10B

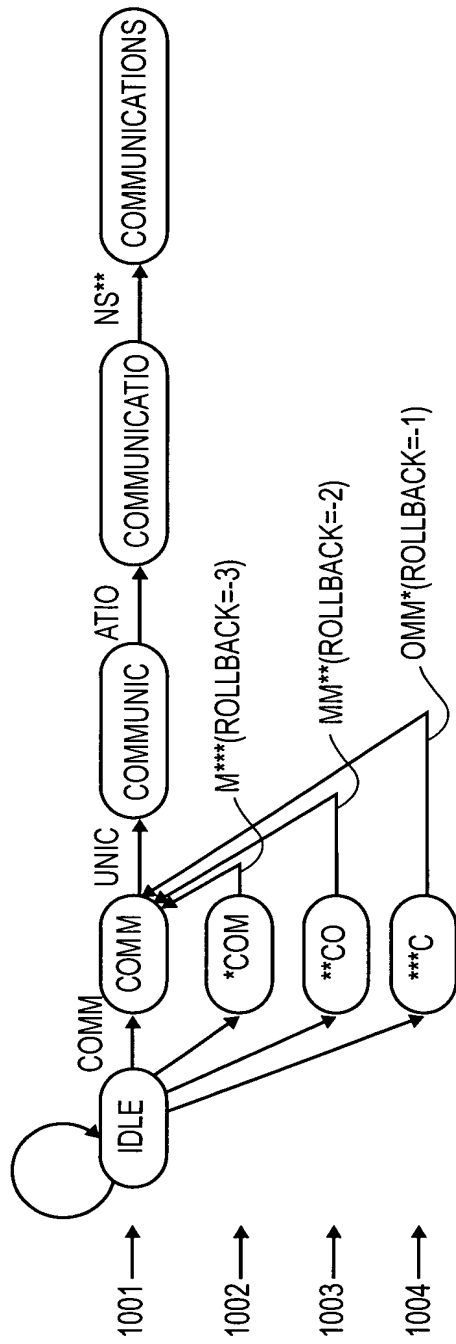


FIG. 10C

ADDRESS	STATE	CHARS	NXT_STATE	ROLLBK	RSLT	ACTION
0	COMM	UNI*	COMMUNI	1	0	NOP
1	COM	MUNI	COMMUNI	0	0	NOP
2	COMMUNI	CATI	COMMUNICATI	0	0	NOP
3	COMMUNICATI	ONS*	IDLE	1	102	OUTPUT RESULT 102
4	CO	MMUN	COMMUN	0	0	NOP
5	COMMUN	I**	COMMUNI	3	0	NOP
6	C	OMMU	COMMU	0	0	NOP
7	COMMU	NI**	COMMUNI	2	0	NOP
8	*	COMM	COMM	0	0	NOP
9	*	*COM	COM	0	0	NOP
10	*	**CO	CO	0	0	NOP
11	*	***C	C	0	0	NOP
12	*	****	IDLE	0	0	NOP

BLOCK 1030₁ (Addresses 0-3)
 BLOCK 1030₂ (Addresses 4-7)
 BLOCK 1030₃ (Addresses 8-12)

TCAM 220 (Addresses 0-12)
 ASSOCIATED MEMORY 230 (Addresses 102-105)

FIG. 10D

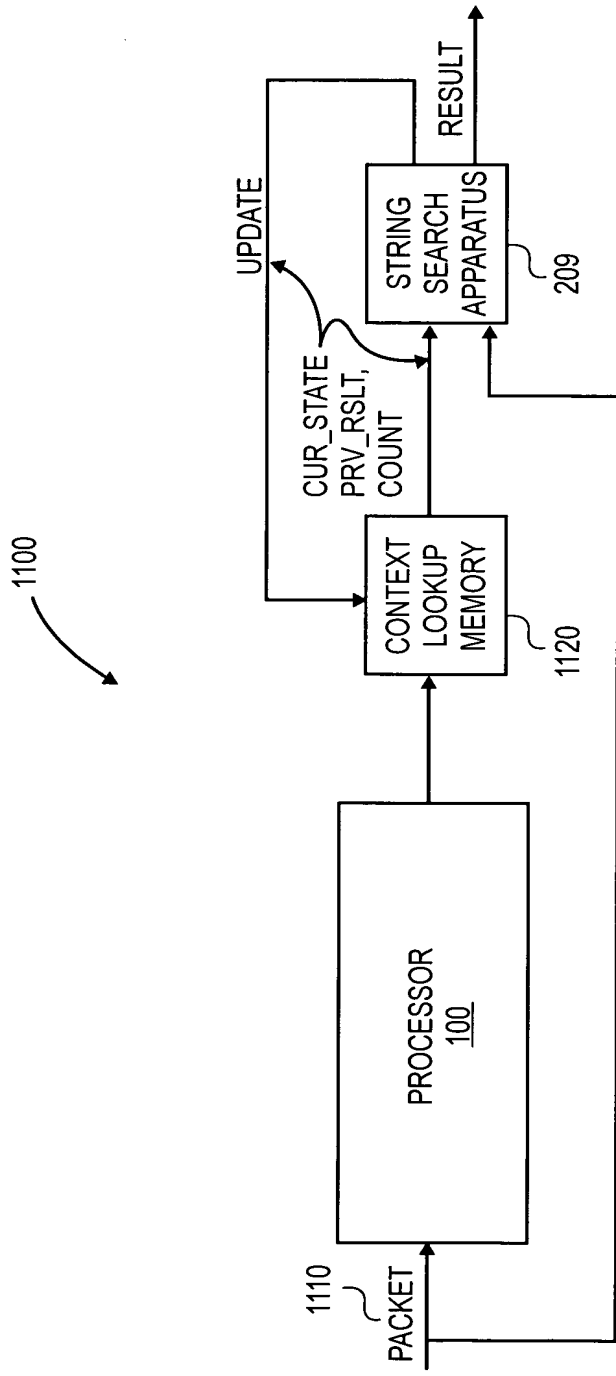


FIG. 11